

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions,  
and listings, of claims in the application:

LISTING OF CLAIMS:

1-19. (Canceled)

20. (Currently Amended) An isolated enzymatically-active protein possessing a glutamine:fructose-6-phosphate amidotransferase (GFAT) activity comprising:

- a GFAT sequence and at least one purification tag sequence, the purification tag sequence being inserted between two consecutive amino acids of the GFAT sequence,

[[or]]

said GFAT sequence being a bacterial or eukaryotic sequence, or human GFAT sequence,

~~— a sequence deriving from the preceding sequence by suppression, insertion or mutation of at least one amino acid, provided that said protein has an enzyme activity, or~~

~~— a sequence having at least 35% sequence identity and/or at least 44% sequence similarity with one of the preceding sequences, provided that said protein has an enzyme activity.~~

said amino acids being included in a part of the GFAT sequence extending approximately between amino acids 220 to 230 of the Escherichia coli GFAT (SEQ ID NO: 13) or

said amino acids being included between amino acids:

- 298 to 306 of SEQ ID NO: 2, corresponding to the human GFAT1 sequence, or
- 299 to 307 of SEQ ID NO: 4, corresponding to the human GFAT2 sequence, or
- 316 to 324 of SEQ ID NO: 6, corresponding to the human GFAT1Alt sequence.

21-25. (Canceled)

26. (Currently Amended) The isolated enzymatically-active protein possessing a GFAT activity of claim 20, in which the purification tag sequence is inserted between amino acids:

- 299 and 300 of SEQ ID NO: 2[.]
- 300 and 301 of SEQ ID NO: 4
- 317 and 318 of SEQ ID NO: 6.

27. (Currently Amended) The isolated enzymatically-active protein possessing a GFAT activity of claim 20, in which the purification tag corresponds to a sequence of approximately 2 to approximately 10 amino acids, in particular or approximately 4 to approximately 8 amino acids.

28. (Currently Amended) The isolated enzymatically-active protein possessing a GFAT activity of claim 20, in which the purification tag is a hexa-histidine.

29. (Currently Amended) The isolated enzymatically-active protein possessing a GFAT activity of claim 20, corresponding to the sequences:

- SEQ ID NO: 8, ~~corresponding to~~ consisting of the sequence SEQ ID NO: 2 in which a hexa-histidine is inserted between amino acids 299 and 300,

- SEQ ID NO: 10, ~~corresponding to~~ consisting of the sequence SEQ ID NO: 4 in which a hexa-histidine is inserted between amino acids 300 and 301, and

- SEQ ID NO: 12, ~~corresponding to~~ consisting of the sequence SEQ ID NO: 6 in which a hexa-histidine is inserted between amino acids 317 and 318.

30. (Canceled)

31. (Currently Amended) A nucleic An isolated acid comprising or being constituted by the nucleotide sequence:

- SEQ ID NO: 7 coding for the protein SEQ ID NO: 8, or
- SEQ ID NO: 9 coding for the protein SEQ ID NO: 10, or
- SEQ ID NO: 11 coding for the protein SEQ ID NO: 12[[,]]

er by its complementary sequence, or being derived from said sequence by mutation, insertion or deletion of at least one nucleotide, provided that said nucleotide sequence codes for a enzymatically-active protein.

**32. (Currently Amended)** A eukaryotic or prokaryotic vector comprising [[a]] an isolated nucleic acid of **claim 31**.

**33. (Currently Amended)** A purification process for [[a]] the isolated enzymatically-active protein possessing a GFAT activity of claim 20, from a solution comprising said protein, comprising a stage of bringing said solution into the presence of a compound binding specifically to the purification tag of said protein and a stage of separation of the complex formed by the binding of said protein to said compound from the other constituents of the solution.

**34. (Currently Amended)** The purification process of claim 33, comprising a stage of bringing a solution comprising a protein corresponding to consisting of the sequences SEQ ID NO : 8, SEQ ID NO : 10 or SEQ ID NO : 12, into the presence of a compound comprising a divalent metallic cation such as Ni<sup>2+</sup> or Co<sup>2+</sup>, in particular Ni<sup>2+</sup>, and a stage of separation of the complex formed by the binding of the protein to said compound from the other constituents of the solution.

35. (Currently Amended) The purification process for [[a]]  
the isolated enzymatically-active protein possessing a GFAT  
activity of claim 20 in an enzymatically active form, in  
particular at -80°C or at 4°C, comprising the addition of said  
protein to a solution comprising:

- approximately 1 mM to approximately 10 mM of fructose 6-phosphate, in particular approximately or 1 mM,
- approximately 1 mM to approximately 5 mM of Tris(2-carboxyethyl) phosphine, in particular approximately or 1 mM,
- approximately 5% to approximately 20% of glycerol, in particular approximately or 10%.

36. (Currently Amended) Composition A composition comprising an active GFAT protein, if appropriate bound to a purification tag, such as the isolated enzymatically-active protein possessing a GFAT activity according to claim 20, said protein being capable of being preserved in an enzymatically-active form, for at least 8 days at a temperature of 2°C to 10°C, in particular approximately 4°C, and for at least 12 months at a temperature of -100°C to -20°C, in particular approximately -80°C, said protein being in combination with:

- approximately 1 mM to approximately 10 mM of fructose 6-phosphate, in particular approximately or 1 mM,

- approximately 1 mM to approximately 5 mM of Tris(2-carboxyethyl) phosphine, in particular approximately or 1 mM,
- approximately 5% to approximately 20% of glycerol, in particular approximately or 10%.

37-38. (Canceled)